

CODEBOOK FOR THE AMERICAN HOUSING SURVEY

This book covers national and metropolitan surveys from 1973 to 1993.

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TABLE 1 - Dates of AHS Metropolitan Surveys

PMSA CODE	WHEN EACH AREA WAS SURVEYED					
	TYPE	74-6	77-9	80-3	84-7	88-91
160	S1	74	77	80		Albany
240	S1	76		80		Allentown
360	P1	74	77	81	86	Anaheim +
520	M1	75*	78*	82	87	Atlanta
720	M1	76	79	83	87	Baltimore
1000	M1	76		80	84	Birmingham
1120	C6	74*	77*	81	85	Boston
1280	C2	76	79		84	Buffalo +
1600	P4	75*	79*	83*	87	Chicago
1640	P1	75	78	82	86	Cincinnati +
1680	P1	76	79		84	Cleveland +
1720	S1	75	78			Colorado Springs
1840	M1	75	78	82	87	Columbus
1920	P1	74	77	81	85	Dallas +
2080	C2	76	79	83	86	Denver
2160	P1	74*	77*	81	85*	Detroit
2800	P1	74	77	81	85	Fort Worth
3000	S1	76		80		Grand Rapids
3280	C4	75	79	83	87	Hartford
3320	S1	76	79	83		Honolulu
3360	P2	76*	79*	83	87	Houston, new sample in 1987
3480	M1	76		80	84	Indianapolis +
3760	M1	75	78	82	86	Kansas City
4120	S1	76	79			Las Vegas
4480	P1	74*	77*	80*	85*	Los Angeles +
4520	S1	76		80,83		Louisville
4720	S1	75	77	81		Madison
4920	M1	74	77	80	84	Memphis
5000	C2	75	79	83	86	Miami
5080	P1	75	79		84	Milwaukee +
5120	M1	74	77	81	85	Minneapolis
5560	M1	75	78	82	86	New Orleans
5600	P3	76*		*80,83*	87	New York
5640	P5	74	77	81	87	Newark
5680	M1	75	78		84	Newport News
5880	M1	76		80	84	Oklahoma City
5920	S1	76	79			Omaha
5960	S1	74	77	81		Orlando
6040	S1	75	78	82		Paterson, merged into Newark area in 1987
6160	P1	75*	78*	82	85*	Philadelphia +
6200	M1	74	77	81	85	Phoenix +
6280	C2	74	77	81	86	Pittsburgh
6440	C2	75	79	83	86	Portland, OR
6480	P2	76		80	84	Providence
6640	S1	76	79			Raleigh
6840	M1	75	78	82	86	Rochester
6920	S1	76		80,83		Sacramento
6960	S1	74	77	80		Saginaw, 1974 tape not released
7040	C3	76*		*80,83	87	St. Louis
7160	M1	74	77	80	84	Salt Lake City
7240	M1	75	78	82	86	San Antonio
7280	P1	75	78	82	86	San Bernardino +
7320	P1	75	78	82	87	San Diego +
7360	P2	75*	78*	82	85*	San Francisco +
7400	P1				84	San Jose
7600	C2	76*	79*	83	87	Seattle
7840	S1	74	77	81		Spokane
8000	S1	75	78			Springfield
8200	S1	74	77	81		Tacoma, merged into Seattle area in 87
8280	M1				85	Tampa
8840	M1	74*	77*	81	85*	Washington
9040	S1	74	77	81		Wichita

*"TYPE": S=SMSA, P=PMSA, M=MSA, C=CMSA. The number of PMSAs included is also shown.

* Area had a larger sample size than average. Sample sizes are shown in Tables 2 & 4.

+ Same boundaries after 1983. Elsewhere, broader areas are surveyed after 1983. In all areas, old sample cases remain in sample, plus a sample of new units. Exact counties surveyed are listed in Table 4 in the Geography section of the Codebook.

INTRODUCTION TO THE AMERICAN HOUSING SURVEY

Prepared by Paul Burke

The American Housing Survey (AHS) can answer many of your questions about U.S. people and homes, with a national sample of about 50,000 interviews every other year. The AHS also gives you in depth surveys of major metropolitan areas, going back to each area about once every four years.

The AHS gives you data on highrises, houses, mobile homes, vacant homes, wage and non-wage income, housing and neighborhood quality, etc. The AHS asks homeowners about repairs and mortgages, renters about rent control and rent subsidies, recent movers about the home they left and why they moved, workers about their commute. For each person, whether adult or child, the AHS shows: age, sex, relationships, education, wages, and the date they moved into their home. The tapes identify many local areas: large counties, cities, and metropolitan areas (see pages 11-23), but not whole states.

To see homes and households changing over long periods of time, the survey goes back to the same housing units year after year (plus new construction). The Census Bureau has done the survey for the U.S. Department of Housing and Urban Development (HUD) since 1973. Most interviews are face to face, and the rest by telephone. Until 1981, the AHS collected national data every year, instead of every other year, and was called the Annual Housing Survey.

HOW TO USE THIS *CODEBOOK*

This *Codebook* shows what information is available on each computer tape. You can start by using the **subject headings** in the Table of Contents, or by browsing through the sample **questionnaire** at the end of this Introduction (it shows the name of each variable and its sequence number in this book), or by using the quick **indexes** at the back of the book.

The computer file contains raw data from each interview ("microdata"), which can be added up using the variable **WEIGHT** books. The **record layout**, printed in this book after the sample questionnaire, shows which columns of each record contain each question. The main body of this book shows the **codes** present in each question each year.

For example, if you want to compare housing costs in good and bad neighborhoods, you would turn to the Table of Contents and find that there are specific sections on "Neighborhood" and "Housing Cost." Each of these sections begins with some text describing the information available. Then each section has a list of the individual questions that have been asked, and the codes for each answer. You would choose an appropriate measure of satisfaction, or **CRIME** which is a specific question about crime, or any of a variety of other questions. Similarly, in the cost section, **ZSMHC** is an overall measure of monthly housing cost, and there are separate questions on mortgage costs, rent, taxes, utilities, etc.

Some questions are asked in all 35 surveys, some are not. Be careful to find questions that are available on the file you have. This *Codebook* shows when each question was asked. Even within a survey, be careful of homes where a question is not applicable, such as vacant homes, demolished homes, newly built homes, etc. The *Codebook* shows codes for each of these situations. For example, the code 9 in **CRIME** means not applicable, and 8 means not answered (the respondent refused, or the interviewer forgot to ask the question).

Each interview on the tape represents a varying number of other homes, since this is a sample survey, and different homes are sampled at different rates. The variable **WEIGHT** (Page 202) on each interview shows how many homes that sample case represents. It has two implicit decimal places, so for example 206925 on the tape means 2069.25 homes. When you prepare a table from the tape, add up the values of **WEIGHT**, case by case, to estimate the complete number of homes. Compare the total number of homes you get to an AHS publication, to be sure you have run the tape correctly. Numbers should match fairly closely, except in high categories of financial variables, where the top code given on the tape is limited to protect confidentiality. You should also be aware that standard errors calculated by most statistics packages are greatly understated since they use the weighted total as the sample size. For corrections, see Chapter 1.

Correct samples should be chosen by using the variable **ISTATUS**, page 32 (use cases coded 1 for occupied homes, cases coded 2 or 3 for vacant homes). On national files from 1974N-83N you should also use the variable **RURREC**, page 9 (use cases coded 1 for the basic national sample; cases coded 2 are only for specialized rural studies, as explained in the introduction to the Geography section).

Sample Entry

REF#	NAME	SURVEYS DESCRIPTION	PAGE ON QUESTIONNAIRE			
0291	HOWN	73N-79N Resident's Satisfaction With Neighborhood	<u>83N</u>	<u>83S</u>	<u>84S</u>	<u>85N</u>
		81N 73N-79N 85N-93N	50	32	9	9
		83N 81N,83N 84S-93S				
		85N-93N <u>74S-83S</u>				
		0 No Neighborhood				
		1 Worst On A Scale of 1-10				
		2 2 On A Scale of 1-10				
		3 3 On A Scale of 1-10				
		4 4 On A Scale of 1-10				
		5 5 On A Scale of 1-10				
		6 6 On A Scale of 1-10				
		7 7 On A Scale of 1-10				
		8 8 On A Scale of 1-10				
		9 9 On A Scale of 1-10				
		10 Best On A Scale of 1-10				
	1	Excellent				
	2	Good				
	3	Fair				
	4	Poor				
	8	98 Not Answered				
	9	99 Not Applicable				

REF# and NAME The number provides a convenient sequential reference. The name attempts to describe the content of the question. Whenever possible, questions in new questionnaires have the same name as in earlier surveys, even if the question was modified.

SURVEYS This entry shows the years and surveys where the question is available. A year followed by "N" means the question is in that National survey, and a year followed by "S" means the question is in the Metropolitan Statistical Area survey. Note that the survey is conducted only in odd years from 1981 on, so a range of 74N-93N means the question is available each year from 1974 through 1981 and odd years thereafter.

DESCRIPTION This entry describes the question as briefly and accurately as possible. Users should refer to the actual question in the Questionnaire to understand the exact intent of the question. To help identify current questions, the questions present in 1984-5 are in **bold print**.

Codes Answer categories and codes have changed over the years for many questions. These changes are shown through the use of separate columns. The column heading shows the surveys where each set of codes applies.

PAGE ON QUESTIONNAIRE This entry gives the page number on selected questionnaires. Up to 4 entries include: the last year the question was available before the questionnaires were extensively revised in 1984, and the first year it is available in the redesigned questionnaires (generally 1984S and 1985N). A blank means the question was not on some of these questionnaires. "G" means the variable was computer generated. "C" followed by a page number means the item comes from the control card rather than the Questionnaire. In the section on 1980 Census Variables page numbers refer to the 1980 Census long form questionnaire, e.g., page 4 for single family units and on page 15 for multifamily units, the page on which the question appears the first time is reported. The *Directory* (see Publications, below) reports every page number and every survey.

Notes Notes are included to clarify a definition, to highlight important changes in wording or respondents across years and other facts which may affect the comparability or reliability of the question.

MAJOR DEFINITION CHANGES

Several **geography** variables and **tenure**, **units** in structure, etc., have changed coding. See the main body of this book. Starting in 1981N and 79S-83S the **weighting** variable **WEIGHT** is adjusted on the basis of 1980 Census results; previously it was adjusted on the basis of 1970 Census results; the national count of units therefore rose almost two million unit, mostly because the 1980 Census had much less under-count than the 1970 Census. A similar adjustment with 1990 Census results will be done in 1991N and 90S-93S. Starting in 1985N and 1983S the weighting variable **PWT** is also available and covers non-interviews as well as interviews.

Starting in 1984 the AHS collects the **cost** of housing for all homes; previously cost was not collected on homes with more than 10 acres nor on owner-occupied homes in multi-unit buildings such as duplexes or condominiums or with a business or medical office on the property. Also starting in 1984 gross rent is stored in the same variable as ownership cost, which is **ZSMHC**; previously it was stored in **ZRENT**. Utility variables for owners and renters have similarly been combined. Starting in the 1984 AHS, the total housing cost of renters (gross rent) includes property insurance, if any; previously it did not.

Starting in 1989 the AHS asks households the amount of their **gas and electric** bills for the most recent January, April, August, and December, and uses a regression to estimate the annual average; previously respondents were asked to come up with an annual average in their heads; this is still done for people who cannot give at least 2 of the 4 months, but it has been found to give a 10% overestimate on average (see p. 1-10 at the end of this book). Starting in 1989N and 90S the AHS asks **subsidized** renters what the family is required to pay each month (**PRENT**, p.147), since there has been concern that **RENT** may sometimes elicit the total landlord charge, paid partly by the government; **PRENT** is used in calculating the total monthly housing cost, **ZSMHC**.

Starting in 1989N and 90S the AHS asks **expected income** in the coming year, if a major change in income has already started (**ZINCN** and **ZINCH**, p. 112); this is used in publications for calculating the ratio of housing cost to income.

Starting in the 1980 AHS and Census, the **householder** can be any adult whose name is on the title or lease; previously the term was head of household, and was arbitrarily the husband in husband-wife families. Starting in the 1984 AHS and 1980 Census, **vacant mobile homes**, boats and RVs are counted as housing units; previously vacant ones were not. Starting in the 1984 AHS and 1980 Census, a household that reaches its home **through someone else's** home is considered part of the same household; previously the two households were considered separate if each had complete, separate kitchen facilities. Starting in the 1984 AHS and 1980 Census, a household where 9 or more people are **unrelated** to the householder is not counted as a housing unit and is omitted from the AHS; previously the limit was 5 or more.

Starting in 1991, the AHS identifies units **for sale** or for rent which are not yet vacant, since this is a major part of at least the sales market (**MARKET**, p. 205). Also starting in 1991 the AHS classifies **URE** units as for rent, old not yet occupied, etc.; previously they were just classified as **year-round** or seasonal.

SAMPLES AVAILABLE

The American Housing Survey has two separate parts: (a) a national survey of housing units throughout the country, and (b) surveys in selected metropolitan areas. Each metropolitan survey has 3,000-15,000 interviews. Table 1 shows when each area has been and will be surveyed.

The national survey covers 50,000-80,000 homes, a completely different sample from the homes in the metropolitan survey. One basic sample, growing slightly to include new homes, was visited every fall from 1973-81, and in 1983. The AHS drew a new sample from the 1980 Census to use every other year from 1985 on.

The national AHS added a special sample of **neighbors** starting in 1985 (and again in 1989 and 1993). This neighbor sample covers the 10 nearest neighbors around each of 680 AHS homes in urban areas. The neighbor sample, which has 6,800 units in 680 clusters, lets users compare adjacent units, occupants of those units, and changes over time. The neighbor sample includes all the same questions as the regular national sample, and will be released on the same tape. The Geography section of this Codebook describes the variables **NEIGH** and **RURREC** that identify the neighbor cases.

In most national AHS surveys, when there is no neighbor sample there is an extra sample of rural units for more accurate rural estimates.

TABLE 2 - Sample Sizes and File Sizes in the AHS

National Survey Year	1991	1989	1987	1985	1983	1981	1980	1979	1978	1977	1976	1975	1974	1973
Total National Sample (000s)	58	60	54	53	78	60	80	79	78	77	80	78	77	60
Neighbor Supplement (000s)		10		7										
Rural Supplement (000s)	6		6		19	2	19	19	19	18	18	17	16	
Original National Sample (000s)	52	50	48	46	59	58	61	60	59	59	62	61	61	60
Characters of Data per Record	1934	1934	1934	3132	1482	1440	1710	990	1488	994	812	810	77	399
Millions of Characters per File	112	116	104	166	116	86	137	78	116	77	65	63	59	24
Start of Interviewing		7/19	7/20	8/26	7/28	8/4	8/13	8/28	9/26	10/17	9/20	9/29	7/29	7/25
End (in same or subsequent year)		1/31	1/18	1/24	1/20	1/15	12/29	12/21	2/6	2/13	1/14	12/31	11/4	11/5

Occupied units are about 80% of each sample. Others are vacant (11%), refusals (3%), converted to business use, demolished, etc. A new national sample was used starting in 1985, 1980 census records will be available on this sample, to give it some history.

Metropolitan Survey Year	1991	1990	1989	1988	1987	1986	1985	1984	1983	1982	1981	1980	1979	1978	1977	1976	1975	1974
Total Metropolitan Sample (000s)	36	36	36	44	36	36	55	47	64	51	73	111	121	114	142	150	147	132
Number of Areas	11	11	11	11	11	11	11	11	13	12	15	15	15	15	20	20	21	19
Basic Sample Per Area (000s)	3	3	3	4	3	3		4	4	4	5	5	6	5	5	5	5	5
*Big Sample, Areas Starred in Table 1							7		9			15	18	16	15	16	15	15
Characters of Data per Record	1934	1934	1934	1934	1934	1934	2215	2215	1098	1692	1437	1437	1248	933	920	895	730	431
Millions of Characters per File	70	70	70	85	70	70	122	104	70	86	105	160	151	106	131	134	107	57
Millions of Chars. for 1 Basic Area	6	6	6	8	6	6	9	9	4	7	7	7	7	5	5	4	4	2
Start of Interviewing	MAR	JUN	MAR	APR	APR	MAY	MAR	AUG	APR	APR	APR	APR	APR	APR	APR	APR	APR	APR
End (in same or subsequent year)	NOV	NOV	NOV	JAN	FEB	DEC	DEC	DEC	DEC	DEC	MAR	MAR	MAR	MAR	FEB	MAR	MAR	MAR

PUBLICATIONS

HUD and the Census Bureau publish 200-500 page books of results from each survey. There is one basic book for each national survey from 1985 on (series H-150), and a second book published some years later on supplementary topics like second homes and commuting (series H151). There were six books for each national survey from 1973-83 (series H-150).

There is one book for each metropolitan area whenever it is surveyed (series H-170). There are also metropolitan summary books in some years (series H-171), which include extracts of the other books and sometimes other topics: housing and neighborhood quality (1975) and commuting (1984+).

All books are available from: HUD USER, Box 6091, Rockville, MD 20850, (800) 245-2691 or (301) 251-5154. They have recent books for a handling charge of \$3 each. For older books, chapters or whole books can be photocopied for \$5-\$36, depending on length. They accept credit cards.

The most recent national book is also available from the U.S. Government Printing Office, Washington, DC 20402, (202) 783-3238 for about \$28. This *Codebook*, recent Metropolitan books and microfiche of all books are available from Data User Services Division, Bureau of the Census, Washington, DC 20233, (301) 457-4100, fax (301) 457-4714 for general information, (301) 457-3842 for orders only.

Each National Book shows data for the U.S., four Census regions, Blacks and Hispanics. Starting in 1985, most of the information is contained in a single book.

TOPICS	BREAKDOWN	IDENTIFIER	YEARS AVAILABLE
General	By all topics	-	1985-present
General	By Suburban, Central City & Non-Metropolitan Areas	Part A	1973-1983
General	By Urban and Rural	Part E	1974-1983
General	By Rent, House Value & Family Income	Part C	1973-1983
General	For Recent Movers Only	Part D	1973-1983
Housing & Neighborhood Quality	Summary	Part B	1973-1977
Housing & Neighborhood Quality	By Rent, House Value & Family Income	Part B Part F	1978-1983 1973-1977
Energy	Summary (Equipment, Fuels, Utility Costs, Commuting)	Part F	1978-1983

The metropolitan publications up through 1983 showed data for the total of all suburbs in an area and the total of all central cities. From 1984 on, publications show brief data (total units, renters, Hispanics, movers, poor, elderly, etc.) on each county where sample size permits. They also have very detailed data on three major subareas, listed below.

Anaheim, 86 Santa Ana Garden Grove	Cleveland, 84 Bal. Cuyahoga Co. Lake Co.	Indianapolis, 84 Hamilton Co. Johnson Co.	New York, 87 Nassau Co. Suffolk Co.	Providence, 84 Warwick Cranston	San Jose, 84 Sunnyvale Bal. Santa Clara Co.
Atlanta, 87 Bal. DeKalb Co. Cobb Co.	Columbus, 87 Franklin Co. Licking Co.	Kansas City, MO, 86 Kansas City, KS Bal. Jackson Co.	Newark, 87 Bergen Co. Middlesex Co.	Riverside, 86 Bal. Riverside Co. San Bernardino City	Seattle, 87 Balance King Co. Pierce Co.
Baltimore City, 87 Baltimore Co. Anne Arundel Co.	Dallas City, 85 Balance Dallas Co. Collin Co.	Los Angeles City 85 Long Beach Bal. Los Angeles Co.	Norfolk, 84 Virginia Beach Newport News	Rochester, 86 Bal. Monroe Co. Ontario Co.	Tampa, 85 St. Petersburg Balance Pinellas Co.
Birmingham, 84 Bal. Jefferson Co. Walker Co.	Denver, 86 Jefferson Co. Arapahoe Co.	Memphis 84 Balance Shelby Co. DeSoto Co.	Oklahoma City, 84 Bal. Oklahoma Co. Bal. Cleveland Co.	St. Louis City, 87 St. Louis Co. St. Clair Co.	Washington, 85 Prince George's Co. Fairfax Co.
Boston, 85 Cambridge Brockton	Detroit, 84 Balance Wayne Co. Oakland Co.	Miami, 86 Balance Dade Co. Ft. Lauderdale	Philadelphia, 85 Montgomery Co. Delaware Co.	Salt Lake City, 84 Bal. Salt Lake Co. Davis Co.	
Buffalo, 84 Balance Erie Co. Niagara Falls	Ft. Worth, 85 Arlington Balance Tarrant Co.	Milwaukee City, 84 Bal. Milwaukee Co. Waukesha Co.	Phoenix, 85 Mesa Bal. Maricopa Co.	San Antonio, 86 Balance Bexar Co. Guadalupe Co.	
Chicago, 87 Balance Cook Co. DuPage Co.	Hartford, 87 New Britain Bristol	Minneapolis, 85 St. Paul Bal. Hennepin Co.	Pittsburgh, 86 Bal. Allegheny Co. Westmoreland Co.	San Diego City, 87 Bal. San Diego Co.	
Cincinnati, 86 Bal. Hamilton Co. Kenton Co.	Houston, 87 Balance Harris Co. Brazoria Co.	New Orleans, 86 Jefferson Parish St. Tammany Parish	Portland, 86 Bal. Multnomah Co. Washington Co.	San Francisco, 85 Oakland Balance Alameda Co.	

In addition to this *Codebook*, Abt Associates sells a *Directory* and copies of the questionnaires used in the surveys. The *Directory* provides unweighted frequency distributions for each variable every year, a cross reference to locations on all the tapes and questionnaires, and information on allocation variables. Contact: AHS Data Project, Abt Associates Inc., 55 Wheeler Street, Cambridge, MA 02138, (617) 497-7182.

Other detailed tables and analysis not normally published can be prepared by the organizations listed below. First are listed private organizations that are known to have at least some of the AHS tapes. Then we list State Data Centers, which cooperate with the Census Bureau to make data more available. Those which are known to have at least some of the AHS tapes are starred. Costs especially from a private organization. However, extra tables using the same input file would probably then cost only a few dollars each. In addition anyone able to process computer tapes may buy them, as explained below under Data Files, and prepare their own tables. The files are usually too large to put on floppy disks. The file sizes are shown in Table 2 above.

PRIVATE ORGANIZATIONS AND STATE DATA CENTERS

National Association of
Home Builders
15th and M Street, NW
Washington, DC 20005
Mr. David Crowe
(202) 822-0383

Abt Associates, Inc.
AHS Data Project
55 Wheeler Street
Cambridge, MA 02138
(617) 497-7182

The Urban Institute
2100 M Street, NW
Washington, DC 20037
(202) 833-7200

Inter-University
Consortium for Political
& Social Research
University of Michigan
Ann Arbor, MI 48106
(313) 764-2570

Claritas Corporation
Attn: Jonathon E. Robbin
201 North Union Street
Alexandria, Va 22314
(703) 683-8300

Donnelley Marketing
Information Service
Attn: Gary Hill
70 Seaview Avenue
Stamford, CT 06904
(203) 353-7474

Alabama
Center for Business and
Economic Research
University of Alabama
Box 870221
Tuscaloosa, AL 35487-0221
Ms. Annette Watters
(205) 348-6191

Alaska
Alaska State Data Center
Research & Analysis
Department of Labor
P.O. Box 25504
Juneau, AK 99802-5504
Ms. Kathryn Lizik
(907) 465-6026

Arizona
Arizona Department of
Economic Security
First Floor, SE wing
1789 W. Jefferson Street
Phoenix, AZ 85007
Ms. Betty Jeffries
(602) 542-6474

Arkansas
State Data Center
University of Arkansas-
Little Rock
2801 South University
Little Rock, Ar 72204
Ms. Sarah Breshears
(501) 569-8530

California*
State Census Data Center
Department of Finance
915 L Street
Sacramento, CA 95814
Ms. Linda Gage, Director
(916) 322-4651

Colorado
Division of Local Government
Colorado Department of
Local Affairs
1313 Sherman Street, Room 521
Denver, CO 80203
Ms. Rebecca Picaso
(303) 866-2156

Connecticut
Policy Dev. & Planning Division
Connecticut Office of Policy
and Management
80 Washington Street
Hartford, CT 06106-4459
Mr. Bill Kraynak
(203) 566-1589

Delaware
Delaware Development Office
99 Kings Highway
P.O. Box 1401
Dover, DE 19903
Ms. Judy McKinney-Cherry
(302) 739-4271

District of Columbia
Data Services Division
Mayor's Office of Planning
Room 570, Presidential Bldg.
415 12th Street, NW
Washington, DC 20004
Mr. Gan Ahuja
(202) 727-6533

Florida
Florida State Data Center
Executive Office of the Governor
Office of Planning & Budgeting
The Capitol, Room 1604
Tallahassee, FL 32399-0001
Ms. Valerie Jugger
(904) 487-2814

Georgia*
Demographic & Statistical Services Division
Georgia Office of Planning and Budget
254 Washington Street, SW
Room 640
Atlanta, GA 30334
Ms. Marty Sik
(404) 656-0911

Guam
Guam Department of Commerce
590 South Marine Drive
Suite 601, 6th Floor GIRC Building
Tamuning, Guam 96911
Mr. Peter R. Barcinas
(671) 646-5841

Hawaii
Hawaii State Data Center
State Department of Business
Economic Development & Tourism
220 S. King Street
Honolulu, HI 96813
Ms. Jan Nakomoto
(808) 586-2493

Idaho

Idaho Department of Commerce
700 West State Street
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DATA FILES

Data files are available from several sources:

- * Complete files from the Census Bureau cost \$175 per reel of tape. For further information, contact: Data Users Services Division, Census Bureau, Washington, DC 20233, (301) 457-4100.
- * Census Tapes are also available at the Inter-University Consortium for Political and Social Research (ICPSR). ICPSR is a membership-based organization. Tapes are available at no cost to members and for a charge to non-members. To inquire on availability and prices, contact: ICPSR, University of Michigan, Ann Arbor, Michigan 48106, (313) 764-2570. When this book was going to press, a file was being prepared which is expected to be available from ICPSR: it is a single tape containing 9 years of data, 1974-83, for an 8% sample of AHS homes, about 7,000 homes.
- * A variety of standard files are available from Abt Associates. Others can be prepared according to user specifications. Prices vary from \$150 to \$2,400 (for a 9 tape file, 1974-83, of all AHS homes). To make programming easier, machine readable documentation is provided in SAS, SPSS, or FORTRAN. Smaller files designed to be used on personal computers can be prepared on diskettes instead of tapes. Contact: AHS Data Project, Abt Associates Inc., 55 Wheeler Street, Cambridge, MA 02138, (617) 497-7182.

The data tapes prepared by Abt Associates differ in several ways from the files available from the Census Bureau and ICPSR:

- * If you want to measure change in individual homes, like how many poor households rise in income, you can merge successive files from Census or ICPSR or buy them already merged at Abt. The merging is done by using each home's unique control number, which is on the tapes from all three sources.
- * Abt files are available in a common layout (fixed field lengths and order of variables) from year to year. Census and ICPSR file layouts are different each year until 1984, when they also start using a standard layout. Thus, the record length of Census/ICPSR files before 1984 is slightly shorter, since Abt always leaves space for questions that are on some questionnaires but not on all. Not that Abt standard files do not include on-time AHS supplements (like the 1980 Mobile Home questions). These are available by special order from Abt while they are usually included in standard Census/ICPSR files.


- * Abt files are available with a fixed number of records from year to year, while Census and ICPSR record counts change as units are added by new construction or lost by demolition or other causes of attrition. Abt files include dummy records for years before a unit joined the sample or after it dropped out. Users of Abt yearly files can have these dummy records included or excluded from their files.
- * Some analysis was performed on these files, and obvious errors were corrected in the Abt tapes. For example, geography variables which cannot change from one year to another were compared, and discrepancies resolved.

Because of the additional processing that has been done, Abt files for individual years are more expensive than Census and ICPSR files. We encourage researchers who do not need data linked across years or standardized formats to buy Census or ICPSR files; researchers who do need linked or standardized data, or want extracts of data, should purchase Abt files.

AHS files can be very large, and statistical packages may be expensive to use. A more efficient table-producing package, the BOAT Package, is available from Abt or HUD User (addresses in Publications section) with appropriate documentation. Both the Fortran source code and the documentation are on a floppy disk. This package is easy to use and can handle any data on computers from micros to supercomputers. A sample table prepared with this package is shown below.

NUMBER OF PEOPLE IN THE U.S.

	Total	0-14 YEARS OLD	15-29 YEARS OLD	30-44 YEARS OLD	45-59 YEARS OLD	60-74 YEARS OLD	75+ YEARS OLD
Total	238,585K	52,897K	57,323K	54,563K	34,165K	28,648K	10,989K
% , Cum % of row	100	22	24 46	23 69	14 83	12 95	5 100
% of column	100	100	100	100	100	100	100
Conf,Int,inc.nonsam	237-240M	49-57M	53-62M	50-59M	30-37M	25-32M	8-12M
AVG HSEHLD INCOM	35.023	33.255	35.611	39.994	42.072	25.998	17.389
% Built Before 1930	16	15	15	15	15	18	24
IN POVERTY	31,038K	10,512K	7,434K	4,811K	2,738K	3,368K	2,175K
% , Cum % of row	100	34	24 58	16 73	9 82	11 93	7 100
% of column	13	20	13	9	8	12	20
Conf,Int,inc.nonsam	27-34M	8-12M	4.7-8.4M	2.2-5.5M	3-3.1M	9-3.9M	0-2.5M
AVG HSEHLD INCOM	6,331	7,224	6,462	6,650	5,632	4,583	4,449
% BUILT BEFORE 1930	21	20	20	19	22	23	26
ABOVE POVERTY	207,547K	42,384K	49,889K	49,752K	31,427K	25,280K	8,814K
% , Cum % of row	100	20	24 44	24 68	15 84	12 96	4 100
% of column	87 100	80 100	87 100	91 100	92 100	88 100	80 100
Conf,Int,inc.nonsam	204-212M	38-46M	46-54M	45-54M	28-35M	22-28M	6-10M
AVG HSEHLD INCOM	39,314	39,712	39,955	43,219	45,247	28,850	20,582
% BUILT BEFORE 1930	15	14	14	14	14	18	23

 BOAT Package, Tuesday, April 3, 1990, 4:29 pm
American Housing Survey 1987 National

MISSING DATA

Missing data are the scourge of most surveys. There are three sources of missing data: omitted units, questions that did not apply to the unit. The combination of omitted units and unanswered questions usually totals at least 10% of the sample, and sometimes 30%.

Units are **Omitted** for several reasons. Only about 3% of households refuse the interview outright. These are present on the tapes with code 3 in the variable NOINT, zero weight, and minimal data such as geographic location, descriptions of the exterior, and 1980 Census characteristics if available. There are also a few units with language barriers, no one ever home, etc; present on the tapes with NOINT = 5 or less and zero weight. More important are units that simply do not show up in Census Bureau sample surveys, though we believe they exist, based on population estimates. Such units are not present on the data files, though the variable WEIGHT is increased to represent them. In total, 8%-36% of various kinds of units are omitted (Table 1.0 on page 1-2 at the back of this book). We increase the variable weight on other units to account for all these omissions. This is an imperfect correction, so confidence intervals need to be widened as shown on page 1-2.

There are also homes where particular questions which apply to the home are **Not Answered**, because the respondents refuse or don't know the answer or the interviewer forgets to ask. People are particularly unwilling or unable to answer questions on income, mortgages, house value, and utilities (Table 3 in this section).

When people do not answer, the data base takes two approaches. For many questions the data base includes a code for "not answered" (usually "8", "98"). For other questions, the Census Bureau assigns, or "allocates," responses to unanswered questions by copying the responses of the last similar unit processed. This procedure preserves the distribution of responses within a variable, and preserves the mean. However, allocated data should be avoided when you compare variables or look at changes over time.

There is also a possibility that two answers are inconsistent. If so, one will be edited. For example, if rent is filled in on an owner occupied unit, it will be changed to "Not Applicable." Where the correct answer cannot be determined, the question will be treated as not answered.

When an answer is allocated, then an "**allocation flag**" is given in another variable, so you can see which answers were real and which were allocated. These variables and the number of allocated cases are shown for 1973-83 in Chapter 4. For surveys from 1984 on, allocation variables can be found on the record layout: their variable names have A (for Allocation) followed by 4 digits. (There is sometimes a 5th digit to distinguish the questions posed to different people in the household, using the same source code.) The same 4 digit number appears again in the record layout next to the variable being allocated. Thus you can see which allocation variable applies to which question. In the allocation variable, a one means the question's answer was allocated, and a two mean the answer was edited. (In case

you are interested the 4 digit number following the A is a sequential number printed on the questionnaire. Thus it also helps you find each question on the questionnaire.)

When an answer is allocated, it is always taken from a 'similar' unit. Groups of units considered "similar" are shown at the end of Chapter 4. The groups are usually based on tenure, race, sex and general unit descriptors. Units are processed in geographic order, so the last similar unit is normally nearby.

Table 3 shows the variables which are most frequently allocated or edited. A variable is included in the table if it was allocated or edited 1,000 or more times in 1985. The number of cases allocated in 1983 is shown in the last column. Percentages are based on the number of applicable cases, rather than total cases.

Recoded variables may exhibit even more allocations, since all variables used in their computation may be subject to allocation. For example about 20% of household interviews have some or all of their income allocated. (Even worse, up to 30% of household interviews have some or all of their income allocated in the longer questionnaires used by other Census Bureau surveys with a special interest in income, and by the AHS up through 1983.) The missing data that are allocated are in addition to the 8%-36% of households which are omitted in the first place, as discussed above, because of refusals, weaknesses in the sample design, etc.

Thus **weights and allocations** let you work with a full file of data, even though many interviews and answers are missing in this as in other surveys and censuses. Do not treat results as if they were highly precise. For example Crystal and Shea adjusted each source of income for under-reporting and found the elderly were significantly better off, compared to the non-elderly, than they appear to be based on unadjusted data (Census, *5th Annual Research Conference Proceedings*, 1989, GPO, pages 467-482). A similar problem is that when surveys or censuses miss young minority men from families, the apparent number of single mothers goes up artificially.

Unfortunately there are also people who **lie or make a mistake** rather than overtly refusing to answer a question, for example people who understate their income to hide their prosperity (or vice versa). One indication of this problem is the large number of people who report annual incomes lower than their annual housing costs. This is rarely likely to be true, but may reflect under-reporting of income. Those cases remain on the tapes, and researchers may choose to omit them. It is usually not possible to identify all false answers, so they stay to infect this and most other surveys and censuses.

The label **Not Applicable** includes three types of non-responses: (1) the interview did not take place, (2) the unit was not in the sample and a dummy record was created, and (3) the question was not intended to be asked of the respondent, as determined by the skip pattern. For example, many questions are not asked on vacant units or non-interviews. Mortgage questions are not asked of renters, etc. In three sections of this *Codebook* the skip patterns

are complex, and the introductions to these sections have explanatory tables: Utilities, Housing Cost and Mobile Homes. Researchers may also trace the precise skip instructions in the questionnaire.

In using this *Codebook*, users will notice that more than one "not applicable" code may appear for the same year (e.g., 9 and 99). This occurs for variables which changed field length over the years in the Census tapes. As mentioned above, the Abt tapes are processed in a constant layout for all years. In such cases, the smaller code (e.g., 9) identifies cases which were on the original Census tape and to which the question was not applicable. The larger code (e.g., 99) was filled in by Abt on dummy cases which represent years before a case joined the sample or after it dropped out.

TABLE 3 - Most Frequently Allocated and Edited Variables

Variable	Description	1985			1983			
		Cases Allocated	No.	Number of Cases %	Edited	Cases Allocated	No.	%
VALUE	Property Value	3,564	12%	351		2,040	6%	
INT	First Mortgage Interest Rate		0	0%	2,093		NA	
VOTHER	Total Other Income							
	Excluding Wages	4,732	10%	15,142		*	-	
SAL1	Wage/Non Relative							
	Income Adult 1	3,420	7%	99		5,337	9%	
SAL2	Wage/Non Relative							
	Income Adult 2	2,389	8%	190		3,160	7%	
QUNEMP	Income From Unemployment							
	Compensation or							
	Other Sources	544	1%	1,516		948	2%	
BUYG	Cost of Gas	2,404	6%	3,817		4,298	13%	
/AMTG								
GASPIP	Source of Gas	1,818	6%	0		NA	-	
BUYW/	Cost of Water & Sewer	1,838	4%	3,848		3,354	11%	
AMTW								
BILLW	Water Billed With							
	Other Utilities	0	0%	1,482		NA	-	
BUYE/	Cost of Electricity	1,537	4%	60		3,533	7%	
AMTE								
BUYO/	Cost of Oil	1,019	2%	23		2,559	22%	
AMTO								
BUYF/	Cost of Other Fuel	1,613	4%	19		NA	-	
AMTF								
HFUEL	Fuel Used for Heating	106	4%	1,666		10	**	
WFUEL	Fuel Used to Heat Water	1,411	3%	NA				
BUYT/	Cost of Trash Collection	1,054	3%	1,871		2,837	27%	
AMTT								
AMTX	Real Estate Taxes Amount	0	0%	5,214		0	0%	
AMTI	Insurance Costs	0	0%	5,328		0	0%	
OFFICE	# of Rooms Used for Business	3,040	17%	0		NA	-	
NOTHRM	No. of Other Rooms	2,248	13%	0		NA	-	
TENURE	Tenure Status	0	0%	1,500		0	0%	
STATUS	Occupancy Status	0	0%	1,500		0	0%	
ACCESS	Direct Access to Unit	0	0%	2,256		0	0%	
BUILT	Year Unit Was Built	350	**	2,200		1	**	
ESAGR	Sagging Roof	0	0%	3,228		NA		
EABAN	Abandoned Buildings	0	0%	1,385		0	0%	
BADSTEP	Hazardous Steps	0	0%	1,618		0	0%	
DISTJ1	Miles to Work-Person 1	1,012	3%	2,256		790	3%	
DISTJ2	Miles to Work-Person 2	404	3%	1,188		297	2%	
TIMEJ1	Commute Time to Work-Person1	420	1%	1,065		154	**	
ALLMV79	All HH Members Moved From							
	the Same Previous Residence	0	0%	7,114		NA		
XATEN	Previous Tenure of Group 1	1,016	11%	0		NA		
XAHEAD	Reference Person Owned/Rented							
	Previous Residence	0	0%	2,340		NA		
DLINE1	Line Number of Respondent		0	0%	2,004		0	0%
IDATE	Interview Date	0	0%	1,364		0	0%	
PHONE	Household Has Phone	1,535	4%	0		96	**	
RENT	Contract Rent	748	4%	984		920	5%	

*In 1983 there were individual variables, such as income from business (3% allocated), income from interest (32%), income from dividends (47%), etc.

**Less than 1%.

ACKNOWLEDGMENTS

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